

---

## *A Level Mathematics – Christ the King*

---

You will be starting an A-Level Maths course in September, and it is important that you are ready for the step up. The best way to prepare yourself is to make sure you have a firm grasp of the knowledge and skills you have already developed at GCSE level.

There are a number of key skills which you need to make sure you are confident with before starting the A-Level course - these are used regularly in the first year and it is essential that you are not struggling with basic skills when you are trying to learn more advanced material for the first time.

This list of topics is designed to help you check if you are up to speed and to help you fill in any gaps. If you do this you will put yourself in a good position to start the A-Level Maths course in September.

### **Skills You Should Have**

Below is the list of the skills you should be confident with before starting the A-Level Maths course:

#### Basic Algebra (non-calculator)

- simplifying algebraic expressions by collecting like terms
- general laws of indices
- expanding and factorising expressions (one term outside)
- laws of indices for all rational exponents (positive, negative, fractions)

#### Quadratic Functions (non-calculator)

- completing the square
- plotting graphs of quadratic functions
- expanding and factorising quadratics (two brackets)
- solving quadratic equations by factorising
- solving quadratic equations using the formula

### Equations And Inequalities (non-calculator)

- solving simultaneous linear equations by elimination
- solving simultaneous linear equations by substitution
- solving linear inequalities

### Sine Rule And Cosine Rule (calculator)

- using the sine rule to find missing sides and angles
- using the cosine rule to find missing sides and angles
- using sine rule, cosine rule, trig ratios and pythagoras in problems

These are all GCSE topics so there is nothing here which you have not already covered.

You still have access to MathsWatch so utilise the support available through this websites on any areas that you are unsure. A good idea would be to start with 1 worksheet per day which will take between 30mins and 2 hours depending on whether you understand that topic.

Being prepared to learn new content from day 1 will increase your chances of success in the subject. Unlike GCSE, we have little opportunities to recap topics over and over again. This means if you are not prepared for each lesson you will find it hard to keep up with the new content. Extra support is available for students who require it but this should not replace your independent study.